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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,331	03/12/2004	Stephan Levine	ASX-066	6232

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EXAMINER	
AKANBI, ISIAKA O	
ART UNIT	PAPER NUMBER
2886	

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08/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/799,331	LEVINE ET AL.	
	Examiner	Art Unit	
	Isiaka O. Akanbi	2886	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-37* is/are pending in the application.

4a) Of the above claim(s) .. is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12 June 2007 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 16 is rejected under 35 U.S.C. 102(e) as being anticipated by Weckstrom (6,791,689 B1).

As to claim 16, Weckstrom teaches of an ozonated water generator, comprising a contactor (23/30) for mixing water and ozone gas, a pipeline in fluid communication with the contactor (23/30) for delivery of ozonated water to a process tool, a light source (1) configured to direct a first band of light and a second band of light along a substantially shared path though the fluid in the pipeline, the first (8a) and second (8b) bands of light diffusely (i.e. spread or

reflected or scatter widely or thinly) scattered in the pipeline (figs 2 and 3), wherein ozone in the ozonated water has a greater absorption associated with the first band of light than with the second band of light (col. 6, line 12-37) (col. 8, line 42-57)(col. 9, line 21-30) and a photosensor (9) that senses the first band (8a) of light and the second band (8b) of light after they pass along the substantially shared path for measuring an attribute of the ozone in the ozonated fluid (figs. 4 and 5)(9/26/27)(col. 7, line 44-61)(col. 8 line 38).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-8, 10-11, 13-15, 17-31 and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weckstrom (6,791,689 B1) in view of Hallstadius (2003/0025909 A1).

As to claims 1, 17, 26 and 37, Weckstrom teaches of an apparatus/method for measuring/producing ozonated water having a desired ozone concentration (i.e. an attribute of ozone) comprising

a vessel (2) to contain an ozonated fluid (col. 7, line 50-53)(figs. 2-7), a light source (1) configured to direct a first band (8a) of light that is detected by (9) and a second band (8b) of light that is detected by (1) along a substantially shared path through the ozonated fluid in the vessel (2), the first and second bands of light diffusely (i.e. spread or reflected or scatter widely or thinly) scattered by the vessel (col. 4, line 54-57)(col. 6, line 38-43),

wherein ozone in the ozonated fluid has a greater absorption associated with the first band of light than with the second band of light (col. 3, line 53-59) and a photosensor (9) that senses the first band of light and the second band of light passing along the substantially shared path (figs. 1 and 2) and suggested measuring ozonated fluid with different wavelength(i.e. red and blue spectrum)(col. 8, line 38-50) and adjusting at least one parameter (i.e. temperature) of the device until the measured ozone concentration substantially matches the desired ozone concentration (col. 5, line 10-16).

Weckstrom is silent regarding to modifying a measured attribute of the ozone in the ozonated fluid determined from the sensed first band of light in response to the sensed second band of light to improve the accuracy of the measured attribute.

However, Hallstadius shows that it is known to measure ozone/ozonated fluid with different wavelength and modifying a measured ozone in the ozonated fluid determined from the sensed first band of light in response to the sensed second band of light to improve the accuracy of the measured attribute (figs. 1-2)(see abstract)(page 2, pars. 0015-0020)(pars. 0001 and 0078)(claim 1). It would have been at least obvious to one having ordinary skill in the art at the time of invention was made to provide an apparatus/method for measuring ozonated

fluid with different wavelengths to achieve the predictable result of measuring ozone concentration with accuracy.

As to claim 3, Weckstrom also discloses the vessel (an object used as a container) comprising a delivery pipeline for the ozonated fluid to permit in situ measurement of the ozone. (fig. 4)(col. 7, line 5-20)(col. 7, line 44-53)

As to claims 4, 5 and 6, Weckstrom further discloses wherein the spectrums are different (i.e. first band of light is associated with a yellow-red frequency and a first width, and the second band of light is associated with a blue frequency and a second width) by using/detecting wavelength region seen by detector (9) and reference detector (11) so that the signal from reference detector (11) is not sensitive (i.e. a yellow-red light-emitting diode to provide the first band of light, and a blue light-emitting diode to provide the second band of light), or is less sensitive (figs. 3 and 4)(col. 3, line 52-59)(col. 6, line 20-23).

As to claims 7-8, 29-30 and 36, Weckstrom also discloses the limitations wherein the substantially shared path is defined in part by at least one reflection site (4) to increase a length of the path through the ozonated fluid in the vessel (2), thereby increasing a measurement sensitivity for the attribute of the ozone in the ozonated fluid (col. 6, line 15-18) and a material that defines an inner surface (4) of the vessel for diffusely (i.e. spread or reflected or scatter widely or thinly) scattering the first (8a) and second (8b) bands of light at the at least one reflection site (figs. 2 and 3)(col. 4, line 56-57).

As to claims 10 and 11, Weckstrom also discloses the attribute of the ozone in the ozonated fluid has an absorption band that overlaps (i.e. extend over and cover part of the band) the first band of light (col. 3, line 53-55) and wherein the light source comprising a light-emitting diode (1) (figs. 2 and 3)(col. 6, line 12-43).

As to claims 13-14, Weckstrom further discloses a photosensor (9) that senses the first band of light (8a) and the second band of light (8b) after the first band of light and the second band of light pass along the substantially shared path (figs. 2,4 and 5)(col. 5, line 53-col. 6, line 3).

As to claim 15, Weckstrom also discloses at least one of a temperature sensor (7), for measuring a temperature of the ozonated fluid in the vessel, and a pressure sensor, for measuring a pressure of the ozonated fluid in the vessel (fig. 2)(col. 5, line 16-18).

As to claim 18, Weckstrom discloses sensing the first band (8a) of light and the second band (8b) of light after they pass along a substantially shared path through the ozonated fluid (figs. 2, 3, 4 and 5)(col. 5, line 27-32)(col. 7, line 50-54).

Weckstrom is silent regarding wherein modifying comprising correcting the measured attribute for an intensity loss of the sensed first band of light associated with at least one factor other than absorption by the attribute of ozone in the ozonated fluid.

Hallstadius teaches of modifying measured ozone in the ozonated fluid (figs. 1 and 2)(pars. 0001, 0078, 0083)(claim 1). It would have been at least obvious to one having ordinary skill in the art at the time of invention was made to provide a modification that comprises correcting the measured attribute for an intensity loss of the sensed first band of light associated with at least one factor other than absorption by the attribute of ozone in the ozonated fluid for the purpose of measuring ozone concentration with accuracy.

As to claim 19, Weckstrom also discloses at least one factor comprising at least a reflectivity of a reflection site of the substantially shared path by using the detectors (figs. 2-7)(col. 6, line 12-20)(9 and 11)(col. 8, line 8-17).

As to claim 20, Weckstrom further discloses providing the substantially shared path in a vessel (2)(figs. 2-7).

As to claim 21, Weckstrom also discloses wherein the substantially shared path is defined in part by at least one reflection site (4) to increase a length of the substantially shared path in the vessel (2)(figs. 2 and 3).

As to claims 22 and 35, Weckstrom further discloses a method comprising causing the ozonated water to flow through the vessel (2) from an ozonated water generator (23/30) to a process (i.e. semiconductor) tool (9/26/27) to permit in situ measurement of the ozone concentration (figs. 4-5).

As to claims 23-24, Weckstrom also discloses alternately directing the first band of light and the second band of light along the substantially shared path, wherein sensing comprising alternately sensing (8a) the first band of light and the second band of light (8b) and alternately directing no light (i.e. dark signal) along the substantially shared path (figs. 2-4)(col. 8, line 58-64)(col. 5, line 58-col. 6, line 1-3).

As to claims 25 and 31, Weckstrom also discloses sensing (9/11) at least one of the first band of light (8a) and the second band of light (8b) along at most a portion of the substantially shared path, and responsively maintaining an emitted intensity of at least one of the first band of light and the second band of light (figs. 2-4)(col. 3, line 52-59)(col. 2, line 3-7).

As to claims 27 and 28, Weckstrom discloses sensing the first band of light (8a) and the second band of light (8b) after they pass along a substantially shared path through the ozonated fluid and absorption of the first or second bands of light (figs. 4 and 5)(col. 7, line 50-54)(col. 9, line 21-30).

Weckstrom is silent regarding the attribute is ozone concentration.

Hallstadius teaches of attribute that is ozone concentration (figs. 1-2)(see abstract)(page 2, pars. 0015-0028). It would have been at least obvious to one having ordinary skill in the art at

the time of invention was made to provide attribute that is ozone concentration by measuring/determining the concentration ozone in a sample.

As to claim 34, Weckstrom also discloses first (8a) and second (8b) bands of light that are in the visible spectrum (i.e. from about 400-750 nm in wavelength)(col. 9, line 55-59)(col. 11, line 30-33).

Claims 9, 12, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weckstrom (6,791,689 B1) as applied to claim 1, in view of the examiner Official Notice.

As to claims 9, 32 and 33, Weckstrom is silent with regard to material/coating on an interior or exterior surface of the vessel for diffusely scattering the first and second bands of light at the at least one reflection site.

The examiner takes Official Notice of the fact that the coating an exterior/interior surface would have been well known. It would have been at least obvious to one having ordinary skill in the art at the time of invention was made to provide a coating on an exterior surface of the vessel to achieve the predictable results of reflecting the total or partial reflection of a source beam accurately.

As to claim 12, Weckstrom fails to disclose the type of materials use for the vessel as being selected from group (i.e. quartz and a polymer).

The examiner take Official Notice of the fact that the use of a material selected from the group of (i.e. quartz and a polymer) for a vessel would have been well known.

Thus It would have been at least obvious to one having ordinary skill in the art at the time of invention was made to provide a vessel comprising a material that is selected from the

group of (i.e. quartz and a polymer) to achieve the predictable results of providing transparent or translucent for receiving flowing fluids/gas.

Response to Arguments

Applicant's arguments/remarks, see pages 10-13, filed on 12 June 2007, with respect to the rejection(s) of claim(s) 1-8, 10-11 and 13-28 under 35 U.S.C. 103(a) have been fully considered and are persuasive. However, upon further consideration, a new ground(s) of rejection is made in view of claim amendment. As to new claims 29-37, upon consideration, a rejection is made as detailed above.

In response to Applicant's arguments that the cited references Weckstrom and Hallstadius either alone or in combination, fails to teach or suggest, at least, first and second bands of light diffusely (i.e. spread or reflected or scatter widely or thinly) scattered as recited in various independent claims, it is respectfully pointed out to applicant that this argument is not persuasive as Weckstrom clearly disclose in (col. 4, line 54-57)(col. 6, line 38-43) and shows in (figs. 2 -7) these limitations. As such, the claims are still rejected as shown in the detail above.

Official Notice

Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice. Applicant must seasonably challenge well known statements and statements based on personal knowledge. In re Selmi, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); In re Fischer, 125 F.2d 725, 52 USPQ 473 (CCPA 1942). See also In re Boon, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument

to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice). If applicant does not seasonably traverse the well-known statement during examination, then the object of the well-known statement is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well-known statement was made. See MPEP 2144.03, paragraphs 4 and 6.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isiaka Akanbi whose telephone number is (571) 272-8658. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur R. Chowdhury can be reached on (571) 272-2287. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isiaka Akanbi

August 12, 2007

TARIFUR CHOWDHURY
SUPERVISORY PATENT EXAMINER